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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,213	12/15/2003	Isabelle Bacon	2993-492US RM/bs	4796

32292 7590 10/26/2005
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EXAMINER

JOHNSON, JONATHAN J

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,213

Applicant(s)

BACON ET AL.

Examiner

Jonathan Johnson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 13 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the instant case, applicant has no support for "rotary friction welding."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

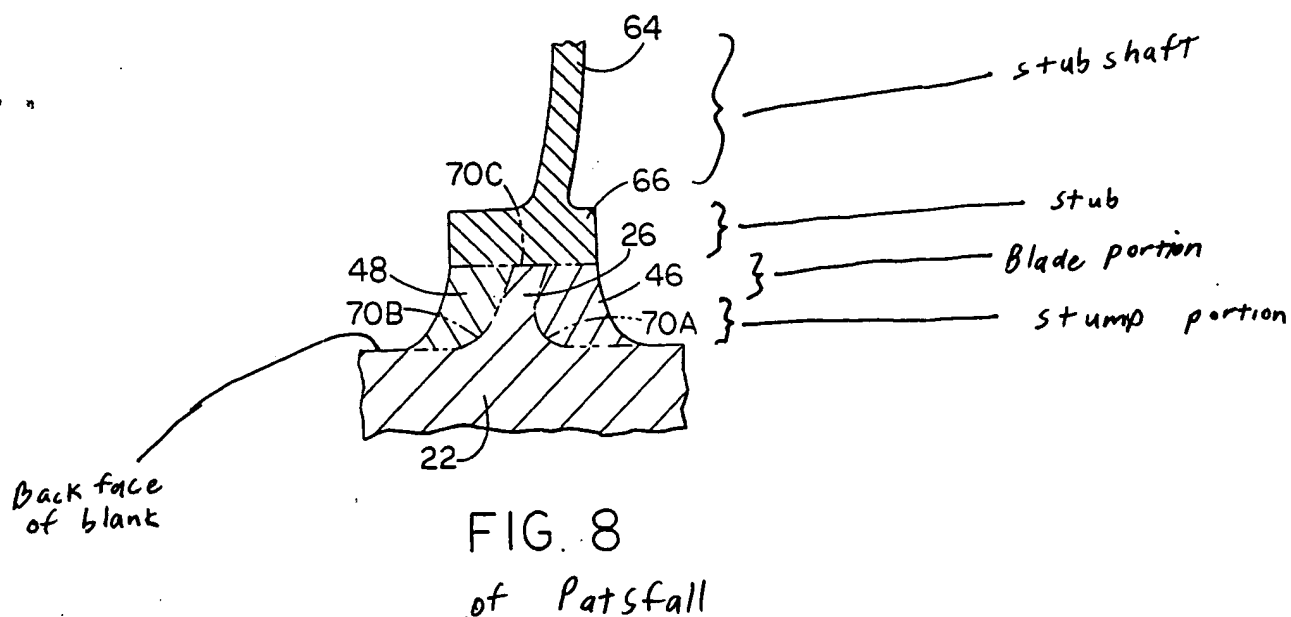
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,934,583 (Patsfall) in view of Applicant's Admitted Prior Art (AAPA). Patsfall teaches forging titanium to provide a blank having a back face (col. 5, ll. 1-5); b. forging a stump portion on the blank, the stump portion extending from the back face (fig. 4, item 64); providing a metal alloy stub shaft (fig. 4, item 50); and friction welding the stub shaft to the stump portion to

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provide a welded assembly (col. 4, l. 56); heat treating the welded assembly to at least relieve a weld zone (col. 4, ll. 60-69); and then removing weld flashing from the weld zone (col. 4, ll. 60-69); providing a billet for use in said forging steps, the billet having a diameter substantially the same as a diameter of said stump portion (col. 5, ll. 1-10); wherein the stump portion has a height measured from the back face to a stump portion end face, and wherein the height is selected to optimize the mechanical work done on the body while minimizing extrusion in the region of the stump portion to thereby provide improved mechanical properties to the body (fig. 7, item 50); wherein the stump portion has a diameter and a height, the height measured from the back face to a stump portion end face, and wherein the height is not greater than the diameter (fig. 7, item 50); wherein the stump portion has a stump height measured from the back face to a stump portion end face, and wherein the method further comprises the step of determining a clearance height required to provide adequate clearance between the stump height and the back face for accomplishing a weld flash removal step, and wherein the stump portion is forged to have a stump height substantially equal to the clearance height (fig. 7, item 50 and col 4, ll. 55-69); forming radially extending blades in the blank (figure 7, items 26 and 22, where the examiner interprets Patsfall's feature 26 as the blade, albeit a small one); where forming the blades are done by micromachining (col. 5, ll. 1-10). AAPA teaches a metal alloy of IM 1834 (specification, paragraph 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the alloy of Patsfall to utilize IM1834 in order to decrease the rate of repair or the blade member (see Patsfall col. 1, ll. 10-40). see drawing below:

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Allowable Subject Matter

Claims 13 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicants argue "Patsfall teaches friction welding of blades to a hub. The AAPA teaches a metal alloy of IM1834." The examiner agrees. Applicant goes on to argue that "[t]hese are simply three pieces of unconnected information which the Examiner wishes to use

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with impermissible hindsight." The examiner disagrees. With respect to the "unconnected information" argument, it appears applicant has mischaracterized the teachings of both Patsfall and AAPA. "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). In the instant case, AAPA teaches IM1834 has highly desirable properties for rotors and impellers for gas turbine compressors (see paragraph 6). Patsfall teaches, inter alia, attaching blades to a blade base in large turbine engines, which is similar to a gas turbine compressor. Thus, as stated in the previous office action, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the alloy of Patsfall to utilize IM1834 in order to decrease the rate of repair or the blade member (see Patsfall col. 1, ll. 10-40).

With respect to the hindsight argument, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

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Applicant argues Patsfall does not teach "heat treating the welded assembly to at least relieve a weld zone." The examiner disagrees. During patent examination, the pending claims must be "given the broadest reasonable interpretation." Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). In the instant case, the examiner interprets "heat treating" to include "electrodischarge material removal" as the electro discharge necessarily produces heat. In addition, the electrodischarge material removal of the excess material at the bond joint "relieves the weld zone" of excess material.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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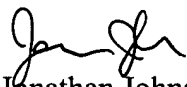
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177.

The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jonathan Johnson
Primary Examiner
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